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Exploring the Constructed Corporate Governance Index's Effect on the Firm Performance and Firm Value: An Empirical Study on Service and Industrial Companies Listed in Amman Stock Exchange

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Abstract

The purpose of this study is to investigate corporate governance's quality for Shareholding Companies Listed on the Amman Stock Exchange; to see how corporate governance index (CGI) and firm performance and firm value are associated; and last but not the least is to check how CGI affects firm performance and firm value. A comprehensive CGI containing 112 points was constructed and analyzed for years 2010 and 2015. It reported that the Jordanian industrial and service companies have a good CGI during these two years. Pearson correlation has showed positive but weak relationships between CGI and all variables in the two years. Multiple regression analysis was performed to evaluate corporate governance index effects on the performance and the value of firm. The results did not support the hypotheses that CGI significantly affects these two variables. To reach to better corporate governance in Jordanian industrial and service companies, the Jordanian authorities might need to modify the inconsistence between laws and corporate governance rules.

Keywords: corporate governance index, firm value, firm performance, Jordan

Introduction

The corporate governance, in the last few years, has shown profound interest in the accounting literature. Corporate governance's key purpose is to give direction to the organization and control it. Largely speaking, one can define corporate governance as "the stewardship responsibility of corporate directors to provide oversight for the goals and strategies of a company and foster their implementation" (Cornelius, 2005, P.583). It is also defined "as the system used to manage and control firms; it consists of a set of market and regulatory mechanisms which indicate how to manage a company,

including the relationships among different stakeholders and the objectives of the company" (Tu et al., 2014, P.175).

Regarding the initiation of the term of corporate governance, there is no clear cut time that refers to the foundation of the term of corporate governance. Nevertheless, it is a contemporary issue. Consequently, Bai et al. (2004:P.600) stated that "The emerging market crisis in 1997 and 1998 rekindled worldwide interest in the issue of corporate governance". During the economic crisis times, link among the performance of firms and corporate governance was established by a few studies. For instance, it was suggested by Baek et al. (2004) that during the Korean financial crisis, the change in the value of a firm is a function of the firm-level differences in the measures of corporate governance. Mitton (2002) (as cited in Siagian, 2011) has found that if corporate governance is implemented in firms, during the economic crisis, they are in a better state. In Jordan, however, as an emergent country, we could also say that the scandals of international companies and financial crisis in 2008 have supported the growing interest of corporate governance in this country**.**

In the line with the arrangements and changes that happened in the world after a financial crisis, significant efforts have been made by the Jordanian government in making corporate governance better. According to Jordan Securities Commission (JSC), the Corporate Governance Code (CGC) guide was constructed by the efforts of JSC in order to establish the national capital market in Jordan, and also its organizational and regulatory structure (JSC, 2016). Therefore, this guide's rules and regulations are mainly founded on several legislations, primarily the ASE Regulations, the Companies Law, the Securities Law and regulations related to that, and lastly OECD – Organization of Economic Cooperation and Development's designed international policies (JSC, 2016).

However, JSC has decided on July 29, 2008, to approve CGC for Shareholding Companies Listed (SCL) on the Amman Stock Exchange (ASE) (here after "SCL on ASE"). It decided that this CGC must be effective in 1/1/2009. Besides, the Companies Control Department (CCD) in the Jordanian Ministry of Industry and Trade has issued CGC for the Private Shareholding Companies that are not for profit, Limited Liability Companies, Private Shareholding Companies, and unlisted Public Shareholding Companies in the stock exchange and for Limited Liability Companies that are not for profit. Once more, the JSC has announced the Public Shareholding Companies that: "a company's annual report for 2010 should necessarily have a special independent chapter of implementing the 'Code'. However, this chapter will indicate to what extent compliance should be done with the guideline code items of the Corporate Governance Code for "SCL on ASE". In case of the inability to comply with any of the guideline

codes, the company must state which code and provide explanations" (JSC, 2016). In addition, Jordanian Public Shareholding Companies must comply with Companies Law, ASE Regulations, Environmental Regulations, Investment Regulations, and other formal laws and regulations.

Subsequently, the industrial and services firm play an important role in Jordan's growing economy as they have in other emerging markets. Corporate governance, as it is widely mentioned, is supposed to positively affect a firm performance, and hence raising the firm value. Consequently, this study's contribution which is the most important of all is a comprehensive quantitative measures' of the construction of corporate governance index (CGI). This is for the purpose of evaluating the corporate governance practices' quality in "SCL on ASE". It is seeking to add latest empirical data and proofs on constructed CGI effects. In addition, it links to the firm value and the firm performance, especially in industrial and service companies. Furthermore, this study contributes to practical literatures about corporate governance in Jordan. Based on the knowledge of the researcher, no study as such has been applied to the same index on these companies.

Therefore, the focus of this study is on: First: CGI Construction is used as an alternative for corporate governance practice in "SCL on ASE". Second: To know, using constructed CGI, whether there an improvement in corporate governance practice in year 2015 compared to year 2010? Third: the link among corporate governance index for "SCL on ASE" and their rates as calculated by Tobin's Q to be established. Fourth: The link among corporate governance index for "SCL on ASE" and their performance as calculated by return on assets (ROA) to be established, and Fifth: To test the effect of CGI for "SCL on ASE" on both firm value and firm performance.

Once again, a composite corporate governance index (CGI) was developed containing 112 points classified under five major governance categories. All the four major aspects of corporate governance in Jordan have been captured in this index. Thus, this includes General Assembly Meetings, The Board of Directors, Disclosure & Transparency, and Shareholders Rights. These major aspects also have in details other aspects such as tasks and responsibilities, Meetings, audit committee, and external auditor. In addition, the index also contains "other general items" to capture the important elements included in the definitions in the CGC for "SCL on ASE". Also, this is with the aim that internal-control issues were incorporated. If examined by the researcher's eye, this sub-index should be added to give more power to the constructed index for "SCL on ASE". The constructed index has two kinds of rules, namely: "Imperative and General rules" and "Guideline rules". As a result, a score of 60.5% has been determined as the minimum score to classify corporate governance as better

or good. Therefore, this score was based on the ratio of points given to imperative and is generally compared to the overall index's points.

This study has reported that the "SCL on ASE" have a good CGI in two years, 2010 and 2015. In addition, a significant difference in the scores for CGI in 2015 and CGI in 2010 was found. Thus, it suggests that the CGI for "SCL on ASE" has improved over time. Despite that, Weak relationships have been found between CGI and each and every variable that is employed in the study. Furthermore, the hypothesis that CGI affects firm's value and firm's performance was not supported by the results.

The organization of this paper is like this: A study and an overview of literature related to connection among corporate governance index, firm value, firm performance, and the development of the hypotheses was done in section 2. The data set and how corporate governance index was constructed for "SCL on ASE" was explained in section 3. The empirical results are explained in the section 4. Conclusion was done in section 5. Finally, the study limitations were explained in section 6.

Review of Literature and Development of Hypotheses

Corporate Governance Index

In recent years, corporate governance link to the variables such as firm performance. Thus, firm value has been of much interest in emerging as well as the developed markets. Majority of the prior studies in this field have conducted on the practices of the main aspects of corporate governance such as board composition, executive compensation, and ownership concentration. However, Cheung et al. (2014) refereed that inconclusive or contradictory data were provided by the past empirical studies regarding the supposed advantages in the case of the implementation of corporate governance practices that are good. From other side, reviewing the literatures in this field, we can see growing interest in building an overall corporate governance index toward achieving more corporate governance quality. In various countries, several empirical studies have made use of the indexes for quality assessment of corporate governance. As Cheung et al. (2014) describes, "The logic behind this approach is that corporate governance mechanisms may be substitutes for one another. Consequently, one must consider the overall quality of corporate governance when examining the impact on firm performance." Furthermore, this logic also can be applied when assessing how CGI influences the value of firm.

There are many approaches that addressed the construction of the corporate governance indices in different countries. Some of these indexes were built on a survey; a questionnaire or a checklist. Other indices were built and analyzed using weighted or unweighted scores based on secondary data such as annual financial reports. In Jordan, Zureigat (2015), using a

checklist designed to construct unweighted compliance index, found that Jordanian listed companies averagely act according to the governance rules that are compulsory. According to Zureigat (2015), the compliance level is significantly affected by a few important variables which include: age as a listed company on the ASE, company size, size of the auditor, type of industry, and profitability.

In contrast to the study conducted by Zureigat (2015), the purpose of this study is to serve as an assessment of what level of corporate governance in "SCL on ASE" is good in year 2015 (the last year before conducting the study) when compared to the year 2010 (the first year where the "SCL on ASE" were required to disclose the extent they comply with governance rules that was initiated by JSC). Consequently, it is supposed that CGI has improved over the years since 2010 until 2015. Therefore, the CGI for "SCL on ASE" were constructed for two years, 2010 and 2015, using 160 questions which covers five sub-indexes. Based on this idea, the first hypothesis was drawn as follows:

H01: There is no difference between CGI for "SCL on ASE" in 2015 and 2010.

Corporate Governance Index and Firm Value

Several studies have been carried in order to establish the association among firm value and corporate governance index. Some of these studies were also carried out to examine how CGI affects the firm value. As it is mentioned previously in this study, the CG Indexes were built in different ways. Thus, here are some related studies. Gov-Score has been created by Brown and Caylor (2006), a summarized form of governance measure which is founded on 51 firm-specific requirements that characterize external as well as internal governance. Tobin's Q is demonstrated as a firm value's substitute, and it has positive relation with Gov-Score. Consequently, a wide corporate governance index is constructed by Beiner et al. (2006) to represent Swiss firms' samples. The common hypothesis that firm valuation and corporate governance are positively related is held up by outcomes of these studies. In Brazilian listed companies, Silva and Leal (2005) have constructed a broad firm-specific corporate governance index of 15 points. Therefore, they reported that Tobin's Q and improved corporate governance practices are positively related. Thus, the results are insignificant statistically.

Ficici and Aybar (2012), using the Corporate Governance Scores of S&P for a 54 American Depositary Receipts (ADR) samples issuing emerging market firms (EMFs) from 9 countries, have shown that Tobin's Q (firm's market value) and emerging market MNEs total corporate governance scores is positively correlated. Siagian, Siregar and Rahadian

(2013) have developed a new corporate governance checklist based on: the Indonesian Institute of Corporate Directorship (IICD), index and checklist from S&P's, and National University of Singapore research. However, they obtained the financial data from the financial reports of JSX database. Their result demonstrates that corporate governance and firm value of various proxies are positively correlated, especially with institutional ownership. However, they did not discover the fact that firm value affects GCG practice. It is recommended using their results that higher CGI scoring firms have higher values. Also, it was suggested by Durnev and Kim (2005) that for the firms where better governance is practiced, the value is higher. This prediction was tested and approved using corporate governance practice's quality data whose compilation is done by CLSA, whereas S&P disclosure data was used as a check for robustness.

Consequently, a firm-specific index for corporate governance quality was constructed by Ananchotikul (2008) to examine how foreign investment affects the corporate governance. She stated that "the fact that this index is positively correlated with firm value as well as with minority shareholdings further confirms the reliability of this index as a measure of the true quality of corporate governance." The values for this index range from 0 up to 100 with better governance being indicated by higher values. It was founded by Siagian (2011) that the implementation of corporate governance is linked to the size of firm and its value. Hence, the firms which have high value and larger size are likely to have better implementation of corporate governance. He also stated: "my findings are consistent using both un-weighted and weighted CGI." He added: "I also use different proxies for firm value and find that the results are consistent with the main results."

By focusing on the ratings of corporate governance in general for a wide variety of international firms, the Corporate Governance Quotient (CGQ) index is used by Krafft et al. (2013) from Risk Metrics/Institutional Shareholder Services to re-assess the connection among corporate governance, performance of firms, and its value. Therefore, they found that convergence claims, hypothetically speaking, showed a statistically strong and an economically significant correlation between governance, firm value and performance, and support the US top practice being adopted by non-US firms.

Using the survey of Indian firms for year 2006, a wide general Indian Corporate Governance Index (ICGI) was built by Balasubramanian et al. (2009). Thus, ICGI and market value of firm are found to be positively correlated. More importantly, Balasubramanian et al. (2009) found that using studies that are in harmony with the multi-country which covers the largest firms for each country only, the ICGI association with the market value of firm may extends to smaller firms as well and is stronger too. In this regard,

when Tu et al. (2014) analyzed the quality of corporate governance by assets size, they indicated that improved quality of CG is present in the bigger banks as compared to the smaller ones. Black, Carvalho and Gorga (2009) have found a significant association between governance and large (but not small) firms. In another work, Black, Carvalho and Gorga (2012) reported other result. Here, they refer to the fact that small firms' market value is predicted by governance (but not for large).

Black (2001) conducted a study using 21 Russian firms sample. It was shown by his results that as measured by governance ranking and "ln(value ratio)", the correlation between firm value is statistically strong and striking too. Despite the fact that due to the fact that small sample results are tentative as referred by Black (2001), he recommends that for a country with cultural and legal constraints which is weak on corporate behavior, a good corporate governance behavior can have an influential impact on the market value. A Korean corporate governance index (KCGI, 0~100) was constructed by Black et al. (2006, p366) for 515 Korean companies which is based on Korea Stock Exchange survey for year 2001. However, they "reported strong OLS and instrumental variable evidence that an overall corporate governance index is an important and likely causal factor in explaining the market value of Korean public companies." In the same manner, Black et al. (2010) have constructed a multi-year KCGI from 1998 to 2004. The KCGI is composed of five equally weighted subindices which are as follows: Ownership Parity, Board Structure, Board Procedure, Shareholders Rights, and Disclosure. It was revealed by them that firms with higher scores on an overall KCGI have higher Tobin's Q. In addition, Black, Carvalho and Gorga (2009) have used Brazilian firms' data from an early survey in 2005 for building the corporate governance index. It was highlighted by them that a higher lagged Tobin's Q was predicted by general index and subindices. This is with exception to "board independence" where it was found that it is negatively correlated to Tobin's Q.

A corporate governance index is constructed by Aman and Nguyen (2008), (as cited in Ushijima, 2015), which is a variable composed of fifteen factors that are obtained from the Nikkei-Cges (Corporate Governance Evaluation System). Ushijima (2015) has employed this index and added three sub-indices, namely, board of directors, equity ownership structure, and information disclosure. Thus, he found that corporate governance increases firm value, but this effect is attenuated for diversified firms. Furthermore, Ushijima (2015) mentioned that "The estimation results show that CG is an important determinant of the market value as well as industrial scope of Japanese firms."

In order to check the comprehensiveness and perfection of practices of “good” corporate governance as the Anglo-American paradigm set

examples, Griffin et al. (2015) used a Governance Metrics International (GMI) new database. Furthermore, three corporate governance indices were built by them, namely: minority shareholder protection, corporate behavior standards, and transparent disclosure. They found within countries, among firm-level corporate governance practices and performance of firm, the existence of a large positive association. Contrastingly, the association was largely negative across countries. It was concluded by them that the implementation of "good" corporate governance practices by the firm is influenced by the national culture as well. It was investigated by Ammann et al. (2011), using dataset from GMI, what is the association among firm-level corporate governance and the value of firm. They constructed two alternative additives CGI with equal weights recognized as the 64 individual governance qualities and a principal component analysis to derive one index. Also, a positive and robust relation for all three indices was found by them between the valuation of firm and firm-level corporate governance.

From other side, some prior studies reported opposed results. ISS Governance QuickScore 2.0 overall rating is used by Gherghina et al. (2014) that are provided by the Institutional Shareholder Services Inc. (ISS) to reflect the corporate governance practices for each and every company that is a part of S&P 100 Index. Therefore, only the companies involved in the financial sector were left as an exception. Inconsistent with prior studies, Gherghina et al. (2014) reveals association among the company value and corporate governance ratings to be statistically insignificant.

In brief, most of the previous studies on corporate governance reveal that there is a positive correlation between firm value and CGI. The examination of the connection between firm value for "SCL on ASE" and CGI, and to check how CGI affects the firm value, are two important purposes of this study. Consistent with prior studies, we use Tobin's Q as a substitute for the value of firm. In accordance to this, the second hypothesis was drawn as follows:

H02: The corporate governance index for "SCL on ASE" doesn't affect firm value in year 2010 and year 2015.

Corporate Governance Index and Firm Performance

From other side, many studies have been conducted to establish how the CGI and performance of firms were linked. For instance, Moore and Porter (2007) have used a commercially produced index, the Corporate Governance Quotient (CGQ), to see how the cooperate governance and cooperate performance are linked. Their study concludes that there is no significant relationship between governance regime and cross-sectional variation occurring in the performance of firms. It was found by Epps and Cereola (2008) that there is no association among operational firm

performance and corporate governance rating as calculated by ROE and ROA. In addition, it is found by Bhagat et al. (2008) that no consistent association exists among measures of corporate performance and governance indices. Varshney et al. (2012) have constructed a corporate governance index which is founded on external and internal mechanisms of corporate governance. Thus, it is used to find out how the Indian firms' performance and corporate governance are linked. Also, it is measured by Economic Value Added (EVA), Return on Capital employed, Return on Net worth, and Tobin's Q. They found a positive relationship between CG and EVA, where they could not validate this relationship for the traditional performance tools-RONW, ROCE or Tobin's Q. Korent et al. (2014) have formed CCGI® based on information and data collected from CG codex's annual questionnaires (Croatian Financial Services Supervisory Agency, The Zagreb Stock Exchange, 2010). However, they stated that the CG practice by the firm explains the varying successful performances significantly for samples of company from the years 2008, 2009, and 2010. For the year 2007, by using the company sample, they found that anyone of the K=5 aspects of CG practices is not significant for justifying the varying company performances success**.**

Vintila and Gherghina, (2012) have examined, using governance indicators given by the Institutional Shareholder Services (ISS), this relationship which includes corporate governance global measure as well as CG's four sub-indices including Board Structure, Compensation, Shareholder Rights, and Audit. Subsequently, a negative correlation among firm performance and corporate governance global rating is established by their study. Furthermore, negative correlation between CG sub-indices and performance of firm was found by them, with some exceptions. Gompers, Ishii and Metrick (2003), by making use of incidence of 24 governance rules, have been successful in building a "Governance Index" which will substitute for the level of rights of shareholder at an estimated 1500 large firms in the 1990s. It was concluded by their study that firms having shareholder rights that are strong had more sales growth, greater firm value, lower capital expenditures, higher profits, and made lesser corporate acquisitions. Following the study conducted by Gompers et al. (2003), an entrenchment index established on six provisions was suggested by Bebchuk, Cohen, and Ferrell (2009). They found "that increases in the index level are monotonically associated with economically significant reductions in firm valuation as well as large negative abnormal returns during the 1990–2003 periods."

Hodgson et al. (2011) "investigate whether the Thai Institute of Directors (IOD) corporate governance index provides investors with financial information about fundamental value and arbitrage portfolio

decisions, and if/how information content changes over time." Thus, they found that financial proxies for performance of firms and "good governance" classification were significantly related. Silva and Leal (2005) have indicated that "less than 4% of Brazilian firms present "good" corporate governance practices and that firms with better corporate governance have significantly higher performance (return on assets)". Klapper and Love (as cited in Krafft et al., 2013) have used for 14 emerging countries and the firm-level data for 374 firms. The key governance index used by them is the first 6 categories, mean, in the CLSA report. According to them, there is a high correlation between better corporate governance, greater market valuation, and improved operating performance. Subramanian (2015) has indicated that the performance of firm and corporate governance, calculated by means of profitability parameter, share a positive relationship. In addition, he indicated that increasing institutional ownership is negatively affecting the corporate governance practices in Indian State-owned Enterprises.

In summary, we can see that the previous studies produced different findings. The results regarding the association among performance of firm and CGI showed conflict. Thus, this study aims to examine this relationship and evaluates the performance of firm using ROA. Given that we don't know the form of this relationship in the "SCL on ASE", the following hypothesis was drawn:

H03: The corporate governance index for "SCL on ASE" doesn't affect firm performance in year 2010 and year 2015.

Methodology

The Population and Study Sample

Mainly the population of this study consists of all companies listed on ASE in the years 2010 and 2015. ASE consists of three main sectors, to be precise, industrial, financial, and the services sector. The list of companies listed on ASE during the period 2010-2015 was subject to changes according to the addition of some companies or the removal of some other companies. Therefore, the sample of the study was selected according to the following conditions: 1-The Company should be already listed on ASE at 31/12/2010 and continued with normal operations until 31/12/2015. 2-The newly companies that were listed after 2010 should be excluded. 3-The discontinued companies because of acquisition, merger, or any other reason should be excluded from the list. 4-The financial sector, which comprises of banks, insurance, real estate, and other diversified financial services companies should also be excluded from the list. The reason for excluding these companies is that they had different kind of operation. Also, they are usually subjected to special regulations and, as such, they need different codes of corporate governance. 5-Availability of data and information for the

selected companies, especially the full financial reports. Sometimes, these reports cannot be found for different reasons. This is a normal problem especially in the emergent countries. Based on these conditions, the final list, as shown in Table 1, contains 97 companies of which 52 were industrial companies and the rest were services companies.

Table 1. Numbers and classification of companies that constitute the sample of study

Main sector - services		Main sector- industrial	
Sub-Sector	No. of Companies	Sub-Sector	No. of Companies
Health Care Services	4	Pharmaceutical and Medical Industries	6
Educational Services	6	Chemical Industries	9
Hotels and Tourism	10	Paper and Cardboard Industries	3
Transportation	10	Printing and Packaging	1
Technology and Communication	1	Food and Beverages	8
Media	2	Tobacco and Cigarettes	2
Utilities and Energy	3	Mining and Extraction Industries	9
Commercial Services	11	Engineering and Construction	6
		Electrical Industries	3
		Textiles, Leathers and Clothing	5
Total	47	Total	52

Data Collection

To achieve the purposes of this study, it depended on secondary resources to gather data and information. This were collected from different sources available publicly, for example disclosure reports of other companies, annual financial reports of companies, websites for companies, Alerts or sanctions directed to companies, Amman Stock Exchange (ASE) databases (2016), and Jordan Securities Commission (JSC) databases (2016).

Construction of the Corporate Governance Index for "SCL on ASE"

A corporate governance index has been built by Black et al. (2006) for 515 Korean companies found on a Korea Stock Exchange survey for year 2001. They declared that a theoretical basis for assigning weights to subindices or to elements within subindices is lacking (Black et al., 2006). Reviewing the literature in this regard, we cannot find a scientific base for the construction of CG indices. Therefore, it is a diligent matter.

The Corporate Governance Index, in this study, has been built for Shareholding Company Listed on Amman Stock Exchange "SCL on ASE". In order to build the index, questions were outlined using the Corporate

Governance Code for "SCL on ASE" that is issued by the Jordan Securities Commission (JSC). Hence, this covers four major groups (sub-indices) as follows: 1-The Board of Directors of a Shareholding Company *(BDoSC)* including the following sub-groups: general points, Meetings of the Board of Directors, Tasks and Responsibilities, and Committees Formed by the Board of Directors. 2-General Assembly Meetings *(GAM)*. 3-Shareholder Rights *(SR)* including two sub-groups: Rights included in the Jurisdiction of the General Assembly and General rights. 4-Disclosure and Transparency *(DT)* which also includes two sub-groups: the external auditor and the audit committee. 5- In addition to four sub-indices, a fifth twelve-element sub-index was added for "Other General Items"*(OGI)* to capture the important elements included in the definitions in the CGC for "SCL on ASE." Also, it aims to encapsulate a few internal-control problems. Looking from the perspective of a researcher, this sub-index should be added to give more power to the constructed index for "SCL on ASE".

At this instant, each general rule in the Corporate Governance Code for "SCL on ASE" in each four group is constructed to have a value of one. In the constructed CGI, some rules have been divided into two or more sub items. In this case, the value of "one" is divided equally by all these sub items. Once again, the questions were submitted for answer in the form of yes or no. When the answer is in a positive status, then the item has a positive value and zero otherwise. Basically, this procedure was done for two reasons; first: the rule sometimes has two segments; one segment contains Imperative and General Items (I&G Items), whereas the other segment contains Guideline Items (G. Items). Second: the company sometimes complies with some items in the same rule, while it does not comply with other items in the same rule. Now, there is an exception for this procedure which is related to "Committees Formed by the Board of Directors." Here, the Nominations and Compensations committee has given 2.5 points distributed unequally on 8 items, just like the features applied to audit committee. On the other hand, the "Other General Items" (added to G. Items) was given 3 points in total divided by 11 items.

Furthermore, the full index contains 160 questions (items) having in total 112 points distributed between sub-indices as it shown in Table 2. The assigning of weights to the five components of governance are found out by dividing the full expected positive score of sub-group (max. sub-score) by the total expected positive score of all groups (max. score). According to this rule, the groups were given the following weights: *BDoSC*36.61%; (41/112), *GAM*8.04%; (9/112), *SR*24.11%; (27/112), *DT*28.57%; (32/112), and *OGI*2.68%%; (3/112). Thus, the final percentage for the sub-group is a product of multiplying the actual output score by the weight and the result, divided by the full score given for the same sub-group. These results could

also be derived by dividing the actual output score by 112. Therefore, the overall CGI has a ratio from 0% up to 100%. According to these procedures, the overall corporate governance index is constructed as shown in the following equation below:

$$CG1 = BDoSC + GAM + SR + DT + OGI$$

CG1: Corporate governance index for "SCL on ASE".
BDoSC: The Board of Directors of a Shareholding Company.
GAM: General Assembly Meetings.
SR: Shareholder Rights.
DT: Disclosure and Transparency.
OGI: "Other General Items".

Table 2. Distribution of questions and points between sub-indices and descriptive statistics for years 2010 and 2015

Sub- Indices	*Theoretical Index*					2010				2015			
	No. Q		*Points*		*Mean*	*Min.*	*Max.*	*Mean*	*SD*	*Min.*	*Max.*	*Mean*	*SD*
	S.	*T.*	*S.*	*T.*									
A- Board of Directors (BD)		*53*		*41*	*.366*	*.110*	*.312*	*.217*	*.032*	*.188*	*.371*	*.299*	*.038*
General items	17		12			.034	.095	.072	.012	.065	.107	.089	.009
Tasks and Responsibilities	18		17			.027	.121	.082	.022	.049	.152	.112	.026
Committees Formed by the BD	12		7			.000	.060	.026	.012	.025	.067	.055	.012
Meetings of the Board of Directors	6		5			.022	.045	.037	.006	.031	.045	.043	.003
B- General Assembly Meetings	*14*			*9*	*0.080*	*.025*	*.065*	*.050*	*.008*	*.043*	*.076*	*.056*	*.007*
C- Shareholders Rights		*27*		*27*	*0.241*	*.170*	*.223*	*.204*	*.013*	*.205*	*.241*	*.221*	*.008*
General Rights	14		14			.063	.116	.096	.012	.089	.125	.105	.008
Rights within the Jurisdiction of *GAM*	13		13			.098	.116	.107	.004	.116	.116	.116	.000
D-Disclosure and Transparency		*55*		*32*	*0.286*	*.189*	*.271*	*.233*	*.015*	*.223*	*.355*	*.253*	*.017*
General items	10		6			.016	.054	.037	.010	.025	.054	.041	.009
The Audit Committee	6		4			.000	.036	.024	.006	.009	.036	.028	.007
Duties of the Audit Committee	15		13			.089	.116	.102	.005	.098	.116	.109	.005

Powers of the Audit Committee	4	3		.013	.027	.021	.005	.018	.027	.023	.004
The External Auditor	20	6		.040	.054	.048	.003	.042	.149	.052	.010
E- Other General Items	*11*	*3*	*0.027*	.007	.027	.019	.004	*.010*	*.027*	*.021*	*.004*
Overall CGI	*160*	*112*				*0.723*				*0.850*	

Finally, it is important to mention that there is no agreement on the structure of values or percentages of which can be judged on the quality of the index. For instance, what is the score that represent good score of CGI, or how much would be the high, medium, or low scores (percentages) in CGI. It is highlighted by Shleifer and Vishny (1997) that for the advanced market economies also, a major disagreement exists on the quality level of the pervading mechanisms of governance. Actually, Bhagat, Bolton and Romano (2008, P.1803) have stated that "there is no one "best" measure of corporate governance". Black et al. (2003), based on the index that ranges from 0 to 100, pointed that the better-governed firms have a higher scores. Whereas Nwakama et al. (2011, P.206) with similar index indicated that "the closer a firm's value is to 100, the better its corporate governance status." In the researcher opinion, especially in Jordan case, to referred to the index as good corporate governance index, the company should, at least, have achieved or be in compliance with the imperative and general rules compared to the whole rules, namely: Imperative, General, and Guideline Codes in addition to "Other General Items." Consequently, according to this opinion, the good CGI for Shareholding Company Listed on Amman Stock Exchange ("SCL on ASE") should be more than 60.5% (the ratio of imperative and general rules (I&G) (67.82 points)) divided by the entire score (112 points**).**

Table 3. The weights of Imperative, General, and Guideline Codes with "Other General Items" included in CGI

	I&G Items		G. Items		*Total Score*	
	Score	Weights	Score	Weights	Score	Weights
Board of Directors	18	0.161	23	0.205	*41*	*0.366*
General Assembly Meetings	6.17	0.055	2.83	0.025	*9*	*0.080*
Shareholders Rights	22	0.196	5	0.045	*27*	*0.241*
Disclosure and Transparency	21.65	0.193	10.35	0.093	*32*	*0.286*
Other General Items	-	-	3	0.027	*3*	*0.027*
Overall CGI	*112*	*.605*	*112*	*0.395*	*112*	*1.000*

Variables Definition

The variables of the study are expressed shortly as follows:

1-Corporate Governance Index: A comprehensive quantitative measures of corporate governance index is constructed for "SCL on ASE" which contains five sub-groups, namely: General Assembly Meetings (GAM), The Board of Directors (BDoSC), Shareholder Rights (SR), Disclosure and Transparency (DT), and "Other General Items" (OGI). This index is expressed as follows:

$$CG1 = BDoSC + GAM + SR + DT + OGI$$

2- Firm's value: Many of prior studies make use of Tobin's Q as an alternative for the value of firm. Tobin's Q was also employed by our study, and it is evaluated as given below:

$$Tobin's\ Q = \frac{(MVE + DEBT)}{(BVE + DEBT)}$$

Where: DEBT = book value of debt; MVE = market value of equity; BVE = book value of equity.

3- Firm's Performance: These are a group of indicators that can be used to measure the performance of firm such as ROA, ROE, ROI, and profitability. In this study, we used ROA as a measure of performance. However, this measure was taken directly from annual reports for the study sample, where it was calculated as follow:

$$ROA = \frac{(Net\ Income + Finance\ Interests)*100}{Total\ Assets}$$

4- Control Variables: The following control variables have been used in this study:

A. Financial leverage as evaluated using the debt ratio.

B. Size of firm calculated using the logarithm of total assets.

C. The largest shareholders possessing 5% or more of the total company's shares. These shareholders are mostly represented by board of directors; therefore, it is expected that they affect the decision of exercising and disclosing the corporate governance. In this study, this variable was divided into two components, namely: biggest institutional shareholders and biggest Individual shareholders.

D. The industry sector. In this study, this variable was taken at two levels, namely: general sectors (i.e. service sector and industrial sector) and sub sectors into general sectors. Therefore, there are 15 sub sectors in this study.

Empirical Results

The Quality of CGI for "SCL on ASE"

The researcher has stated previously, according to his opinion, that the good CGI for "SCL on ASE" should be more than 60.5%, which is the

percentage of score of imperative and general rules out of total theory score, i.e. a product of 67.82/112. Table 4 shows the percentage of actual scores in the years 2010 and 2015 in details and the total scores compared to the constructed total theoretical score. The results refer that the "SCL on ASE" have a good CGI in two years. The total percentages are 72.30% and 85% for years 2010 and 2015, respectively. The results also refer in general that the CGI in 2015 is better than CGI in 2010.

Table 4. The quality of CGI for "SCL on ASE" in years 2010 and 2015 compared to the constructed theory CGI score

	Full Theory score			*2010*				*2015*			
	I&G	*G.*	*T. Score*	*I&G*	*G.*	*T. Score*	*%*	*I&G*	*G.*	*T. Score*	*%*
Board of Directors	0.161	0.205	*0.366*	0.123	0.094	0.217	*59.29*	0.155	0.144	0.299	*81.69*
General Assembly Meetings	0.055	0.025	*0.080*	0.043	0.008	0.050	*62.50*	0.048	0.008	0.056	*70.00*
Shareholders Rights	0.196	0.045	*0.241*	0.175	0.029	0.204	*84.65*	0.190	0.031	0.221	*91.70*
Disclosure and Transparency	0.193	0.093	*0.286*	0.170	0.063	0.233	*81.47*	0.183	0.071	0.253	*88.46*
Other General Items	-	0.027	*0.027*	-	0.019	0.019	*70.37*	-	0.021	0.021	*77.78*
Overall CGI	*0.605*	*0.395*	*1.000*	*0.511*	*.213*	*0.723*	*72.30*	*0.579*	*0.275*	*0.850*	*85.00*

I&G: Imperative and General rules, G: Guideline rules
%: is a percentage of actual score divided by total theoretical score.

Descriptive Statistics

Table 5 shows the variables' descriptive statistics that are employed for the purpose of this study. The CGI's mean is raised by 18.14% (from 0.7231 in year 2010 to reach 0.8543 in year 2015), which indicates an improvement in practices of corporate governance. The companies' size, given by logarithms of total assets, has increased by 0.08% which indicates increase of investment in these companies. Financial Leverage has also increased by 15.18% which support the increase of total assets. Ownership concentration has changed in two ways; biggest individual shareholders have increased by 7.4%, whereas biggest institutional shareholders have decreased by 1.17%. From the theoretical point of view, the increase of the control of individuals on the company should leads to improvements in the performance. In this study, the mean of firm value and firm performance have decreased by 15.63% and 49.14%, respectively. One possible explanation of these results is that the increase ratio of leverage exceeds the increase ratio of assets. This might place a big burden on the revenues, especially after the financial crisis.

Table 5. Descriptive statistics for the variables used in the study.

No.	*Variables*	*Symbols*	*Year*	*Descriptive Statistics*			
				Min.	*Max.*	*Mean*	*SD*
1-	Corporate Governance Index	CGI	2010	.5763	.8562	.7231	.0472
2-	CGI		2015	.7242	.9752	.8543	.0496
3-	*Tobin's Q*	TQ	2010	.0291	3.6614	.9683	.7456
4-	*TQ*		2015	.0369	4.0190	.8170	.7835
5-	Return on Assets	ROA	2010	-1.0311	.3551	.0232	.1389
6-	ROA		2015	-.4491	.3143	.0118	.1054
7-	Size (Log. of Total Assets)	LgTAsst	2010	5.6915	8.9002	7.3351	.5744
8-	LgTAsst.		2015	5.8608	9.1083	7.3408	.6278
11-	Financial Leverage	Leverage	2010	.0125	.9447	.3082	.2164
12-	Leveg.		2015	.0015	.9803	.3550	.2417
13-	Biggest shareholders-institutions	BigInst	2010	.0000	.9912	.3681	.2658
14-	BigInst.		2015	.0000	.9870	.3638	.2997
15-	Biggest shareholders-personal	BigInd	2010	.0000	.9550	.2058	.2289
16-	BigInd		2015	.0000	.9200	.2210	.2544
17-	Sector	Sect		1	2	1.52	.502
18-	Sub-Sector	SubSect		1	15	7.39	3.856

Tables 6 and 7 present the Pearson correlation for variables used in the study for years 2010 and 2015, respectively. These two tables show positive but weak relationships between CGI and all variables in two years. Subsequently, these relationships were positive with regards to relationships with size (LgTAsst), Leverage, BigInst in 2010, and the relationship with size in 2015. In addition, most of control variables have insignificant correlations with each other. From other side, the tables also show some significant correlations in two years. In 2010, a positive correlation was established between Tobin′s Q and ROA, where it is negatively associated with size and leverage. In 2010, ROA was also found to be positively correlated with the size and BigInst. In 2015, a positive correlation was established between Tobin's Q and BigInd, where it is negatively associated with leverage. ROA was also found to have a negative correlation with SubSect and a positive correlation with the size.

Table 6. Pearson Correlation table for year 2010

Correlations

		1	2	3	4	5	6	7	8	9
1	CGI	1								
2	Tobin′s Q	.060	1							
3	ROA	.123	.218*	1						
4	LgTAsst	-.041-	-.227-*	.246*	1					
5	Leverage	-.124-	-.377-**	-.008-	.407**	1				
6	BigInst	-.062-	.141	.216*	.186	.061	1			
7	BigInd	.087	.180	.001	-.188-	-.224-*	-.594-**	1		
8	Sect	.189	-.102-	-.085-	-.314-**	-.020-	-.061-	-.059-	1	
9	SubSect	.178	-.121-	-.034-	-.163-	.102	-.027-	-.118-	.744**	1

**. Correlation is significant at the 0.05 level (2-tailed).*

***. Correlation is significant at the 0.01 level (2-tailed).*

Table 7. Pearson Correlation table for year 2015

Correlations

		1	2	3	4	5	6	7	8	9
1	CGI	1								
2	Tobin′s Q	.103	1							
3	ROA	.007	.185	1						
4	LgTAsst	-.017-	-.162-	.430**	1					
5	Leverage	.089	-.384-**	-.187-	.330**	1				
6	BigInst	.012	-.144-	.065	.142	.053	1			
7	BigInd	.135	.387**	-.036-	-.200-*	-.164-	-.545-**	1		
8	Sect	.112	.040	-.152-	-.343-**	-.032-	-.110-	.131	1	
9	SubSect	.091	-.072-	-.212-*	-.209-*	.096	.016	.003	.744**	1

**. Correlation is significant at the 0.05 level (2-tailed).*

***. Correlation is significant at the 0.01 level (2-tailed).*

Hypotheses Testing

Paired-sample t-test was employed in this study to test whether there is a difference between CGI for "SCL on ASE" in 2010 and 2015. In addition, to test the CGI effects and other explanatory variables for "SCL on ASE" in 2010 and 2015 on both firm value and firm performance, the technique of multiple regressions was used. Therefore, the results of testing the hypotheses ***H01*** **to** ***H03*** are as follow:

H01: There is no difference between CGI for "SCL on ASE" in 2015 and 2010.

This hypothesis is aimed to know whether there is an improvement in corporate governance practice in year 2015 compared to year 2010. A paired-samples t-test was conducted to compare CGI for "SCL on ASE" in 2015 and 2010. For the scores of CGI in 2015, the difference was significant (M=0.854, SD=0.050). For CGI in 2010 (M=0.723, SD=0.047) conditions, $t(96)= -37.796$, $p<0.001$. These results, which were provided in table 8, suggest that CGI for "SCL on ASE" has actually improved over time. This analysis has been repeated for sub-indices' in 2015 and 2010. As it can be seen from table 8, there were significant differences between all pairs of scores, which is consistent with the previous result.

Table 8. Results of paired-samples t-test

Pair	year	Paired Sample					
		Statistics		*Correlations*		*Test*	
		Mean	*SD*	*Correlation*	*Sig.*	*t*	*Sig.*
CGI and CGI	2010-2015			.752	.000	-37.796	.000
CGI-I&G and CGI-G	2010			.258	.011	-79.803	.000
CGI-G and-G	2010-2015			.867	.000	-28.660	.000
CGI-I&G and CGI-I&G	2010-2015			.458	.000	-29.840	.000
CGI-I&G and CGI-G	2015			.190	.063	-69.327	.000
CGI	2010	.723	.047				
CGI	2015	.854	.050				
CGI-I&G	2010	.511	.024				
CGI-G	2010	.212	.035				
CGI-I&G	2015	.579	.043				
CGI-G	2015	.275	.018				

H02: The corporate governance index for "SCL on ASE" doesn't affect firm value in year 2010 and year 2015.

The multiple regression model utilized to test what is the association among value of firm as evaluated using Tobin's Q and CGI is as shown below:

Tobin's Q = αi+β1CGI+β2ROA+β3Size+β4Leverage+β5BigInst+β6BigInd+β7Sect+β8SubSect+ e … (1)

The outcomes of *H02* hypothesis testing in years 2010 and 2015 are illustrated in Table 9. It is found that the CGI in two years, 2010 and 2015, does not significantly affect firm value. The outcomes of our study are coherent with Gherghina et al. (2014) study, which revealed that between the value of company and corporate governance ratings, there is no significant statistical association. From the other side, it is not consistent with many studies mentioned earlier in this study, which found that firm value positively affects good corporate governance practice. In year 2010, the control variables including ROA were found to significantly affect firm value with exception of sector and subsectors. In year 2015, two control variables were found to significantly affect firm values which are Leverage and BigInd. Therefore, what is unexpected in this result is that the size and ROA did not significantly affect firm value in year 2015. Therefore, Tobin′s Q has regressed against these two variables. The results, as shown in Table 10, revealed that these two variables significantly affect the value of firm. It is clear by looking at the outcomes that the link among these two variables

and value of the firm is controlled by the other variables as well. Thus, this might not be of interest to the given study.

Table 9. Results for regression for the effect of corporate governance index for "SCL on ASE" on firm value in year 2010 and year 2015 (controlled by ROA, size, leverage, BigInst, BigInd, and Sect and Subsect)

	2010		2015	
	Coefficients[a]		*Coefficients*[a]	
	t- statistics	*Sig.*	*t- statistics*	*Sig.*
CGI	.184	.855	.837	.405
ROA	1.978	.050	1.579	.118
Size (LgTAsst)	-2.036-	.045	-.749-	.456
Leverage	-2.412-	.018	-2.549-	.013
BigInst	2.534	.013	.618	.538
BigInd	2.122	.037	3.198	.002
Sect	-1.012-	.314	.115	.909
Subsect	.119	.906	-.359-	.720
	R= .537; R^2= .228; Adj. R^2= .223 F= 4.446; P<.001		R= .538; R^2= .290; Adj. R^2= .225 F= 4.491; P<.001	

a. Dependent Variable: Tobin′s Q

Table 10. Results of regression for the effect of ROA and size on value of firm.

	2010		2015	
	Coefficients[a]		*Coefficients*[a]	
	t- statistics	*Sig.*	*t- statistics*	*Sig.*
ROA	2.939	.004	2.890	.007
Size (LgTAsst)	-3.016	.003	-2.745	.005
	R= .363; R^2= .132; Adj. R^2= .113 F= 7.120; P=.001		R= .325; R^2= .106; Adj. R^2= .087 F= 5.562; P=.005	

a. Dependent Variable: Tobin′s Q

At detailed level as in equation 2, additional analysis was conducted to know whether CGI-I&G (imperative and general rules) and CGI-G (Guideline rules) have different effect on firm value in year 2010 and year 2015. As shown in Table 11, we found the same results. Also, the CGI-I&G and CGI-G in two years, 2010 and 2015, did not significantly affect the firm value.

$$Tobin's\ Q = \alpha i + \beta 1 CGI\text{-}I\&G + \beta 2 CGI\text{-}G + \beta 3 ROA + \beta 4 Size + \beta 5 Leverage + \beta 6 BigInst + \beta 7 BigInd + \beta 8 Sect + \beta 9 SubSect + e \ldots (2)$$

Table 11. Results for regression of the effect of the CGI-I&G and CGI-G for "SCL on ASE" on firm value in year 2010 and year 2015 (controlled by ROA, size, leverage, BigInst, BigInd, and Sect and Subsect)

	2010		2015	
	Coefficients[a]		*Coefficients*[a]	
	t- statistics	*Sig.*	*t- statistics*	*Sig.*
CGI-I&G (imperative and general)	.854	.396	-.047	.963
CGI- G (Guideline)	-.337	.737	1.084	.281

a. Dependent Variable: Tobin′s Q

H03: The corporate governance index for "SCL on ASE" doesn't affect firm performance in year 2010 and year 2015.

The multiple regression model utilized to test how the performance of firm was calculated using ROA is linked to CGI as shown as follows:

$$ROA = \alpha i+\beta 1CGI+\beta 2Size+\beta 3Leverage+\beta 4BigInst+\beta 5BigInd+\beta 6Sect + \beta 7SubSect +e \ldots (3)$$

The results of testing of *H03* hypothesis in years 2010 and 2015 are presented in Table 12. Thus, it was found that the CGI in two years, 2010 and 2015, does not significantly affect firm performance. In year 2010, the size of firm and BigInst were found to significantly affect firm performance. In year 2015, two control variables were also found to significantly affect firm performance which includes size and Leverage. Earlier in this study, we have seen that the prior studies revealed different and conflicted findings about how the CGI and performance of firm are linked.

Table 12. Results of Regression for the corporate governance index for "SCL on ASE" effect on performance of firm in year 2010 and year 2015 (controlled by size, leverage, BigInst, BigInd, and Sect and Subsect).

	2010		2015	
	Coefficients[a]		*Coefficients*[a]	
	t- statistics	*Sig.*	*t- statistics*	*Sig.*
CGI	1.210	.230	.512	.610
Size	2.255	.027	5.660	.000
Leverage	-694	.490	-3.719	.000
BigInst	2.421	.018	.273	.786
BigInd	1.607	.112	.063	.950
Sect	-.251	.803	1.213	.228
Subsect	.396	.713	-1.419-	.159
	R= .383; R^2= .146; Adj. R^2= .079 F=2.181; P=.043		R= .570; R^2= .325; Adj. R^2= .272 F= 6.119; P<.001	

a. Dependent Variable: ROA

Consequently, we have conducted an additional analysis, as it is drawn in equation 4, to know whether CGI-I&G and CGI-G have different effect on firm performance in year 2010 and year 2015. As it shown in Table 13, we found that the two variables in two years did not significantly affect the firm performance.

$$ROA = \alpha i+\beta 1CGI\text{-}I\&G+ \beta 2CGI\text{-}G+\beta 3Size+\beta 4Leverage+\beta 5BigInst +\beta 6BigInd +\beta 7Sect+ \beta 8SubSect + e \ldots (4)$$

Table 13. Regression results for the effect of the CGI-I&G and CGI-G for "SCL on ASE" on firm performance in year 2010 and year 2015 (controlled by size, leverage, BigInst, BigInd, and Sect and Subsect)

	2010 *Coefficients*[a]		2015 *Coefficients*[a]	
	t- statistics	*Sig.*	*t- statistics*	*Sig.*
CGI-I&G (Imperative and General)	.058	.954	-.936	.352
CGI-V (Guidline)	1.588	.116	.986	.327

a. Dependent Variable: ROA

From the other side, Claessens (2006, P.103) stated that "Better corporate governance can add value by improving the performance of firms, through more efficient management, better asset allocation, better labor policies, or similar efficiency improvements." Therefore, the explanation of the previous results of *H01* to *H03* might need more analysis. When reviewing the value and performance of "SCL on ASE" after financial crisis in the period 2008-2010, we find important contradictory changes in the ROA and Tobin′s Q values that are linked to the total assets. Table 14 presents the summary of the signs of changes that happened in 2015 in comparison with changes occurring in 2010.

Table 14. Tobin′s Q and ROA values changes relating to total assets

Change of Total Asset	*No. of Comp.*	*%*	*Tobin's Q*	*ROA*
			Sign	*sign*
Increased	13	13.40	+	+
Increased	8	8.25	+	-
Increased	16	16.49	-	+
Increased	11	11.34	-	-
decreased	24	24.74	-	-
decreased	8	8.25	+	-
decreased	11	11.34	-	+
decreased	6	6.19	+	+
Total	*97*	*100%*		

Conclusion

Abroad Corporate Governance Index is built in this study. However, it contains 112 points which was classified under five major governance categories, namely; The Board of Directors of a Shareholding Company, General Assembly Meetings, Shareholder Rights, Disclosure and Transparency, and "Other General Items". The index was used to calculate corporate governance's quality using 97 Jordanian service and industrial companies. In addition, the comparing analysis with the theoretical CGI score has reported that the "SCL on ASE" have a good CGI in two years, 2010 and 2015. In addition, the study has investigated the improvement in the constructed Index. A significant difference was found in the CGI scores

for 2015 and 2010 suggesting that the CGI for "SCL on ASE" has improved over time, and it is better in 2015 than it is in 2010.

The study also investigated the association between CGI and firm value and firm performance. Consequently, Pearson Correlation has shown weak relationships between CGI and all variables in years 2010 and 2015. These relationships were positively correlated with the exception of the relationship with size, Leverage, the biggest institutional shareholders in 2010, and the relationship with size in 2015.

The study also aimed to examine how CGI affects the value and performance of firm. The study revealed that the CGI in two years, 2010 and 2015, does not significantly affect firm value as measured by Tobin's Q. It is revealed by these results that all the explanatory variables used in the study significantly affect firm value with the exception of sector and subsectors. In addition, the study revealed that CGI in two years, 2010 and 2015, does not significantly affect firm performance. In year 2010, the size of firm and biggest institutional shareholders were found to significantly affect firm performance. In year 2015, also two control variables were found to significantly affect firm performance, which include size and Leverage. Thus, one of the explanations of the previous results is the existence of contradictory changes in the values of Tobin′s Q and ROA which relates to total assets after financial crisis in the period 2008-2010.

Despite the results referred that the "SCL on ASE" have a good CGI, it still need more improvements. There is some inconsistence between Jordanian laws rules and some of corporate governance rules. Jordanian companies usually follow companies' law rules besides the other laws. Therefore, to reach better corporate governance, the interested Jordanian authorities may need to modify the inconsistency of these rules.

Limitations

In building the corporate governance index employed by this study, it depends on secondary data, which were collected from various publicly-available resources. The use of primary data such as interviews and questionnaires may be very useful and give more power to the constructed index. In addition, including other explanatory variables such as cultural issues and behavioral issues of investors might play a role in controlling the association among constructed CGI that is constructed and the performance and value of firm.

References:

1. Ammann, M., Oesch, D. & Schmid, M.M. (2011). Corporate governance and firm value: International evidence, Journal of Empirical Finance, 18(1), 36-55.

2. Amman Stock Exchange (ASE) (2016). Annual financial reports and Jordanian shareholding companies' guides (2010 and 2015). Available at: http://www.ase.com.jo/en/disclosures
3. Ananchotikul, N. (2008). Does Foreign Direct Investment Really Improve Corporate Governance? Evidence from Thailand. Working Papers No 2008-09, Economic Research Department, Bank of Thailand.
4. Baek, J-S Kang,J-K. & Park, K.S. (2004). Corporate governance and firm value: evidence from the Korean financial crisis, Journal of Financial Economics, 71(2), 265-313.
5. Bai, C-E., Liu, Q., Lu, J., Song, F.M., & Zhang, J. (2004). Corporate governance and market valuation in China, Journal of Comparative Economics, 32(4), 599-616.
6. Balasubramanian, N.B., Black, B.S., & Khanna, V. (2009). Firm-level corporate governance in emerging markets: A case study of India, ECGI Working Paper Series in Law, Working Paper No.119/2009.
7. Bebchuk, L., Cohen, A. &Ferrell, A. (2009). What matters in corporate governance, Review of Financial Studies, 22(2), 783-827.
8. Beiner, S., Drobetz, W., Schmid, M.M., & Zimmermann, H. (2006). An integrated framework of corporate governance and firm valuation. European Financial Management, 12(2), 249–283. http://dx.doi.org/10.1111/j.1354-7798.2006.00318.x
9. Bhagat, S., Bolton, B. & Romano, R. (2008). The promise and peril of corporate governance indices, Columbia Law Review, 108(8), 1803-1882.
10. Black, B. (2001). The corporate governance behavior and market value of Russian firms, Emerging Markets Review, 2(2), 89-108.
11. Black, B.S., Carvalho, D.C. & Gorga, E. (2009).What corporate governance elements predict firm value: Evidence from Brazil. European Corporate Governance Institute, Finance Working Paper No. xxx/2008; Northwestern University School of Law, Law and Economics Research Paper No. 09-20; University of Texas Law School, Law and Economics Research Paper No. 152; University of Texas, McCombs School of Business, Working Paper No. FIN-xx-09, Available at: http://www.ifc.org/wps/wcm/connect
12. Black, B.S., Carvalho, D.C. & Gorga, E. (2012).What matters and for which firms for corporate governance in emerging markets? Evidence from Brazil (and Other BRIK Countries). nearly final version, published in 18 Journal of Corporate Finance 934-952 (2012); ECGI - Finance Working Paper No. 306/2011;

Northwestern Law & Econ Research Paper No. 09-20; U of Texas Law, Law and Econ Research Paper No. 152. Available at SSRN: http://ssrn.com/abstract=1832404

13. Black, B.S., Jang, H. &Kim, W. (2003). Does corporate governance affect firm value? Evidence from Korea. Social Science Research Network Working paper No. 311275 (February2003),http://papers.ssrn.com/so13/papers.cfm? abstract_id=311275.
14. Black B.S., Jang, H. & Kim, W. (2006). Does Corporate Governance predict Firms' market Values? Evidence from Korea, Journal of Law Economics & Organization 22(2):366-413. DOI: 10.1093/jleo/ewj018
15. Black, B.S., Kim, W., Jang, H. & Park, K.S. (2010). How corporate governance affects firm value: evidence on channels from Korea, Working Paper Available at SSRN: http://ssrn.com/abstract=1365945
16. Brown, L.D., & Caylor, M.L. (2006). Corporate governance and firm valuation. Journal of Accounting and Public Policy, 25(4), 409–434. http://dx.doi.org/10.1016/j.jaccpubpol.
17. Cheung, Y-L., Connelly,J. T., Estanislao,J.P., Limpaphayom, P., Tong Lu, T., & Utama, S. (2014). Corporate Governance and Firm Valuation in Asian Emerging Markets, Corporate Governance in Emerging Markets, theories, practices and cases, Boubaker, S. and Nguyen, D.K. (eds). Springer-Verlag Berlin Heidelberg, 27-53.
18. Claessens S. (2006). Corporate Governance and Development, World Bank Research Observer, 21(1), 91-122.
19. Cornelius, P. (2005). Corporate practices and national governance systems: what do country rankings tell us? German Law Journal, 6(3), 583-604.
20. Durnev, A. & Kim, E.H. (2005). To steal or not to steal: firm attributes, legal environment, and valuation, the Journal of Finance, 60(3), 1461-1493.
21. Epps, R., & Cereola, S. (2008). Do institutional shareholder services (ISS) corporate governance ratings reflect a company's operating performance? Critical Perspectives on Accounting, 19(8), 1135-1148.
22. Ficici, A. & Aybar, C.B. (2012). Corporate governance and firm value in emerging markets an empirical analysis of ADR issuing emerging market firms, Emerging Markets Journal, 2(1), 38-51. DOI 10.5195/emaj.2012.18
23. Durnev, A. & Kim, E.H. (2005). To steal or not to steal: firm attributes, legal environment, and valuation, the Journal of Finance,

60(3), 1461-1493.
24. Gherghina, S.C., Vintila, G. & Ţibulca, I.L. (2014). A study on the relationship between corporate governance ratings and company value: Empirical Evidence for S&P 100 Companies, International Journal of Economics and Finance, 6(7), 242-253.
25. Gompers, P., Ishii, J. & Metrick, A. (2003). Corporate Governance and Equity Prices, Quarterly Journal of Economics, 118(1), 107-156.
26. Griffin, D.W., Guedhami, O., Kwok, C.C.Y., Li, K. & Shao, L. (2015). National culture, corporate governance practices, and firm value, Available at SSRN: http://ssrn.com/abstract=2400078, accessed 15 May 2016.
27. Hodgson, A., Lhaopadchan, S., & Buakes, S. (2011). How informative is the Thai corporate governance index? A financial approach. International Journal of Accounting and Information Management, 19(1), 53-79.
28. Jordan Securities Commission (JSC). (2016). Corporate Governance Code for Shareholding Companies Listed on the Amman Stock Exchange, Disclosures, Available at: http://www.jsc.gov.jo
29. Korent, D., Dundek, I. & Calopa, M.K. (2014). Corporate governance practices and firm performance measured by Croatian Corporate Governance Index (CCGI®), Economic Research-Ekonomska Istraživanja, 27(1), 221-231, DOI: 10.1080/1331677X.2014.952109
30. Krafft, J., Qu, Y., Francesco Quatraro, F. & Jacques-Laurent Ravix, J-L. (2013).Corporate governance, value and performance of firms: New empirical results on convergence from a large international database, HAL Id:halshs-00786763
31. Moore, S., & Porter, G. (2007). An Examination of the relationship between corporate governance regime and corporate performance. Working Paper, Department of Economics and Finance, Boler School of Business, John Carroll University, University Heights, Ohio.
32. Nwakama, P.C., Okereke, E.J., & arewa, A. (2011). An empirical evaluation of corporate governance mechanism in banking sector: impact and implication in Nigeria. Asian Journal of Business and Management Sciences, 1(2), 202-236.
33. Shleifer, A. & Vishny, R. (1997). A survey of corporate governance, the Journal of Finance, 52(2), 737-783.
34. Siagian, F., Siregar, S.S. & Rahadian, Y. (2013). Corporate governance, reporting quality, and firm value: evidence from

Indonesia", Journal of Accounting in Emerging Economies, 3(1), 4-20. DOI http://dx.doi.org/10.1108/20440831311287673

35. Siagian, F.T. (2011). Ownership Structure and Governance Implementation: Evidence from Indonesia, International Journal of Business, Humanities and Technology, 1(3), 187-202.
36. Silva, A.L. & Leal, R.P. (2005). Corporate Governance Index, Firm Valuation and Performance in Brazil, Revista Brasileira de Financas, 3(1), 1-18.
37. Subramanian, S. (2015). Corporate governance, institutional ownership and firm performance in Indian state-owned enterprises, Asia-Pacific Journal of Management Research and Innovation, 11(2), 117-127.
38. Tu, T.T.T., Khanh, P.B. & Quyen, P.D. (2014). Developing corporate governance index for Vietnamese banking system, International Journal of Financial Research, 5(2), 175-188.
39. Ushijima, T. (2015). Diversification discount and corporate governance in Japan, Policy Research Institute, Ministry of Finance, Japan, Public Policy Review, 11(3),427-449.
40. Varshney, P., Kaul, V.K., & Vasal, V.K. (2012). Corporate governance index and firm performance: Empirical evidence from India, Available at SSRN: http://ssrn.com/abstract=2103462, accessed 17 May 2016.
41. Vintila, G. & Gherghina, S.C. (2012). An empirical examination of the relationship between corporate governance ratings and listed companies' performance, International Journal of Business and Management, 7(22), 46-61.
42. Zureigat, Q.M. (2015). Determinants of mandatory corporate governance: evidence from an emerging market, International Journal of Business and Finance Research, 9(3), 105-114.